

**REMARKS**

In a non-final Office Action mailed on March 18, 2008, the United States Patent and Trademark Office rejected all pending claims (Claims 1-19) of the present application. Applicant is cancelling Claims 1-19 and adding new Claims 20-45, and, for the following reasons, believes the new claims to be in condition for allowance.

**Rejection of Claims 1-19 under 35 U.S.C. § 112, second paragraph**

In the Office Action, Claims 1-19 are rejected under 35 U.S.C. § 112, second paragraph, because “the claims are narrative in form and replete with indefinite and functional or operative language.” Rather than heavily amending Claims 1-19 to address these problems, Applicant is canceling Claims 1-19 and adding new Claims 20-45. New Claims 20-45 are written in proper form, so that this rejection under 35 U.S.C. § 112, second paragraph, is moot and Applicant respectfully requests its withdrawal.

**Rejection of Claims 1 and 3 under 35 U.S.C. § 102(e)**

In the Office Action, Claims 1 and 3 are rejected under 35 U.S.C. § 102(e) as being anticipated by Chang (U.S. Publication No. 2003/0153393) (hereinafter, “Chang”). Canceled Claims 1 and 3 correspond to new Claims 20 and 25, respectively.

Claim 20 is not anticipated by Chang because Chang does not disclose a “shaft being made of fibers disposed in a binder” wherein the shaft has “increasing wall thickness from a thin wall at the front end to a thick wall at the back end.” Chang shows a shaft 12 made of a hollow shaft of wood 22 sandwiched between an inner shaft 24 and an outer shaft 26. Both the inner shaft 24 and the outer shaft 26 may be made of fibers disposed in a binder. However, Chang only discloses the wooden layer 22 having a taper. FIG. 2 of Chang shows wood layer 22 starting at a small thickness at the tip end and increasing to a large thickness at the opposing end. The inner and outer shafts 24, 26, which may be fibers in a binder, remain a constant thickness. The specification of Chang also supports only constant-thickness shafts made of fibers disposed in a binder. The inner shaft is described as having an outer diameter of 6 millimeters and in inner diameter of 4 millimeters in paragraph [0012], and the outer shaft is described as having a

thickness in a range of 0.8 to 1.0 millimeters. For these reasons, Chang does not disclose a shaft made of fibers disposed in a binder and having constantly increasing thickness. Therefore, Chang does not anticipate Claim 20. Claim 25 is also not anticipated by Chang for at least the same reasons. Applicant respectfully requests that this rejection be withdrawn.

Rejection of Claims 4-6 under 35 U.S.C. § 103(a)

In the Office Action, Claims 4-6 are rejected under 35 U.S.C. § 103(a) as being obvious over Chang. Canceled Claims 4-6 correspond to new Claims 27-29, respectively.

The Office Action states that Chang discloses all elements of Claims 27-29, except for the particular dimensions recited in these claims. The Office Action further states that because Chang states that its recited dimensions may be changed according to circumstances, the dimensions recited in Claims 27-29 are obvious. Applicant disagrees with that conclusion. Further, for the reasons stated above, Chang does not disclose or suggest every element of independent Claim 20 from which these claims depend. Applicant respectfully requests that this rejection be withdrawn.

Rejection of Claims 2 and 11-15 under 35 U.S.C. § 103(a)

In the Office Action, Claims 2 and 11-15 are rejected under 35 U.S.C. § 103(a) as being obvious over Chang in view of Yu (U.S. Publication No. 2002/0072424) (hereinafter, "Yu"). Canceled Claim 2 corresponds to new Claims 22-24 and canceled Claims 11-15 correspond to new Claims 33, 38, and 40-42, respectively.

The Office Action states that Chang discloses the claimed device with the exception of the foam. Claims 22-24 depend on independent Claim 20 and Claims 38 and 40-42 depend on independent Claim 33. For the reasons stated above, Chang does not disclose "a shaft or a layer of a shaft that is made of fibers disposed in a binder with a wall thickness increasing continuously from a thin wall at a front end of the shaft to a thicker wall at a back end of the shaft." Yu also does not disclose these claim elements in independent Claims 20 and 33. Therefore, independent claims 20 and 33 are not rendered obvious by the combination of Chang and Yu. Claims 22-24, 38, and 40-42, which depend from independent Claims 20 and 33, respectively, are not rendered obvious for at least the same reasons.

The Office Action further states that the ranges of wall thickness in now-canceled Claims 13-15 (corresponding to new Claims 40-42) are further obvious in view of Chang because Chang discloses that its disclosed dimensions may be adjusted according to circumstances. Applicant disagrees. Further, as described above, Chang does not disclose or render obvious all elements of independent Claim 33. Therefore, Claims 40-42 are not rendered obvious over Chang for at least the same reasons.

For the foregoing reasons, Applicant respectfully requests that this rejection be withdrawn.

Rejection of Claims 7-10 and 16-19 under 35 U.S.C. § 103(a)

In the Office Action, Claims 7 and 16 are rejected under 35 U.S.C. § 103(a) as being obvious over Chang in view of McCarty *et al.* (U.S. Pat. No. 6,110,051) (hereinafter, “McCarty”). Canceled Claims 7-10 correspond to new Claims 26 and 30-32, and canceled Claims 16-19 correspond to new Claims 39 and 43-45.

The Office Action states that Chang only discloses a first half of a billiard cue but that McCarty discloses the rear half of a billiard cue having a continuously increasing wall thickness. Claims 26 and 30-32 depend on independent Claim 20 and Claims 39 and 43-45 depend on independent Claim 33. For the reasons discussed above, Chang does not disclose a “shaft having a continuously increasing wall thickness from a thin wall at the first end to a thick wall at the second end, the shaft being made of fibers disposed in a binder,” which is recited in each of independent Claims 20 and 33. McCarty also fails to disclose this claim element. McCarty does disclose a shaft made of fibers disposed in a binder with varying wall thickness, but the thickness is not “continuously increasing.” McCarty, at column 3, describes a shaft having a constant wall thickness of 0.030 inches from a first end to an intermediate point (see lines 13-17); then, from the intermediate point to the second end, the wall thickness increases approximately 0.04 inches and more as the outer diameter of the shaft increases toward the second end (see lines 26-29). For the foregoing reasons, none of Chang, McCarty, or the combination of the two references, teach or render obvious a “shaft having a continuously increasing wall thickness from a thin wall at the front end to a thick wall at the back end, the shaft being made of fibers disposed in a binder,” which is recited in independent Claims 20 and 33. Claims 26, 30-32, 39, and 43-45,

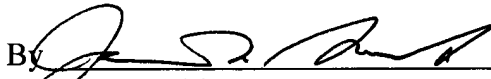
which depend on independent Claims 20 and 33, are not rendered obvious for at least the same reasons.

**CONCLUSION**

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By   
James M. Smith  
Registration No. 28,043  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

Date: 7/17/8